

Impact of school health education program on personal hygiene among school children of Lucknow district

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ABSTRACT

Background: Personal hygiene plays a major role to promote healthy life. This study was performed to assess the current level of knowledge and practicing behavior in regard to hand washing, bathing, tooth brushing, and taking care of nail and hair. **Materials and Methods:** A cross-sectional descriptive study was conducted on 800 students of Lucknow district. All the students were interviewed with a structured questionnaire (pretest). A visual display of good and bad personal hygiene was shown on projector and explained the benefits of good personal hygiene behavior. Again, structured questionnaire was given (posttest). **Results:** Most of the students belonged to the 10–12 years age group. The knowledge of the students regarding general body cleanliness was 87.5% in posttest as compared to 53.8% in pretest. Keeping the hair well-trimmed was considered as a part of personal hygiene by 38.0% of students. Knowledge about eating less food in diarrhea was positive in 80% of students. Only 12.5% of students accepted that diarrhea can kill children (pretest) while 100% (posttest) children were aware of this fact. Practice regarding change of clothes was on alternate day in 79.5% of students. Most of the students were found washing their hair once a week (72.5%) and 70% students were washing hands before meal. **Conclusion:** Overall trend of knowledge and practice about personal hygiene was in poor condition among students at the time of pretest. Posttest results were highly satisfactory.

Keywords: Diarrhea, hand wash, health, Lucknow, personal hygiene, school children

Introduction

The word hygiene is derived from the name of the ancient Greek goddess of healthful living-Hygeia. Hygiene refers to the practices associated with the protection of health and healthy living.^[1] In several Hindu texts, a written account of hygiene practices can be found such as Manusmriti and the Vishnu Purana. Bathing is one of the five Nitya Karmas in Hinduism, and not performing it leads to sin, according to some scriptures.^[2]

Poor health hygiene practices can lead to communicable diseases basically within developing countries. In Africa and Southeast Asia, 62% and 31% of all deaths are caused by infectious disease.^[3] In developing countries, primary causes of morbidity

and mortality among young children are acute respiratory and intestinal infections.^[4] School is place which not only provides education to children but also learning environment.

The foundations of lifelong responsibility for the maintenance of personal hygiene are laid down in childhood, which is important for a healthy childhood, for a healthy adulthood, and for the development of positive values about health and the use of health services. Diarrheal diseases, skin diseases, worm infestations, and dental diseases are most commonly associated with poor personal hygiene. The present inadequate knowledge base hinders the development of improved strategies for enhancing the maintenance of personal hygiene, which is of great importance to decrease the burden of communicable diseases in the developing countries.

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With the above background, this study was undertaken with the following objectives:

1. To find out the current knowledge and practices regarding personal hygiene among primary school children
2. To identify any misconception among them regarding the maintenance of personal hygiene
3. To identify knowledge and misconceptions regarding health-related conditions
4. To educate and promote good personal hygiene behavior among them.

Materials and Methods

A school-based cross-sectional descriptive study was done on school children of 6–12 years age group studying in schools of urban and rural areas of Lucknow district, for 12 months (October 2014 till September 2015). Nonprobability purposive sampling technique was used. Total sample of the study consisted of 800 school children.

Inclusion criteria

School children:

- Between the age group of 6 and 12 years
- Available at the time of data collection
- Willing to participate in the study.

Exclusion criteria

School children: Not in the age group of 6–12 years.

Method of data collection

We communicated the objectives of the study to the students and teachers, and participation was completely voluntary. Study participants provided oral consent before participating, and there was a 100% participation rate. Approval from the Ethical Committee was also granted before the commencement of this study. Each student was interviewed using a structured questionnaire in a room specifically dedicated for this study. Study staff consisted of doctors, people for the display of posters and projectors, photographers, and helpers to distribute the questionnaire. Briefing was done regarding the questionnaire provided to the students and they were asked to mark the responses. Questionnaire was given to assess the current level of knowledge (pretest). A brief health education session regarding personal hygiene was conducted for the class teachers and students after completion of the pretest. Again, new set of similar questionnaire was given (posttest session). School teachers were asked to help the students in understanding the questions in pretest and posttest. Questionnaire consisted of two parts:

- Part-I

Demographic variables of school children such as age, sex and religion.

- Part-II

Knowledge and practices questionnaire on personal hygiene.

Operational definition

Knowledge: It refers to the correct responses of school children regarding personal hygiene as measured by self-administered questionnaire.

Practice: It refers to the activities performed by school children in relation to personal hygiene to promote hygiene behavior.

Personal hygiene: Personal hygiene deals with practices that help school children in the maintenance and promotion of their health physically, emotionally, socially, and spiritually.^[6]

Data analysis: Data were analyzed using the statistical software SPSS Statistics for windows, version 17.0 (Chicago, IL: SPSS Inc). Chi-square test was used to make categorical comparisons.

Results

Out of 800 students, majority of the students were in age group of 10–12 years (59.5%) followed by 8–10 years age group (27.5%). Among 800 students, male and female students were 70.0% and 30.0%, respectively. Maximum students were Muslim (62.0%) and rest were Hindu (38.0%) [Table 1].

Knowledge that personal hygiene is about general body cleanliness was found in 53.8% of children in pretest while 87.5% agreed this in posttest. Only 38% of children knew that keeping hair well trimmed is a part of personal hygiene. 50.5% of students agreed that biting the nail with the teeth is not healthy for our teeth. In pretest, 75% of students agreed that we do not need to wash our hands when there is no visible dirt [Table 2].

97.5% students had knowledge that diarrhea is spread by flies on food while 100% agreed this in posttest. In pretest, only 12.5% of students accepted that diarrhea can kill children while in posttest, 100% children were aware of this fact [Table 3].

77% of students were taking bath alternate day and only 13% of students were taking daily. Practice regarding change of clothes was on alternate day in 79.5% of students. Most of the students

Table 1: Sociodemographic profile

	n (%)
Age group (years)	
6-8	104 (13.0)
8-10	220 (27.5)
10-12	476 (59.5)
Sex	
Male	560 (70.0)
Female	240 (30.0)
Religion	
Hindu	304 (38.0)
Muslim	496 (62.0)

Table 2: Knowledge about personal hygiene

Variables	Pretest, n (%)	Posttest, n (%)	Z	P
Personal hygiene is about general body cleanliness	430 (53.8)	700 (87.5)	11.282	<0.0001
Keeping your fingernails trimmed and clean shows good hygiene	496 (62.0)	758 (94.8)	12.262	0.000
Keeping the hair well trimmed is part of personal hygiene	304 (38.0)	704 (88.0)	17.120	0.000
Washing the hair regularly is part of personal hygiene	380 (47.5)	744 (93.0)	16.227	0.000
Biting your nail with your teeth is not healthy for your teeth	404 (50.5)	760 (95.0)	16.318	0.000
Rinsing your mouth with water after meal is healthy for your teeth	424 (53.0)	750 (93.8)	14.693	0.000
Cleaning your teeth with toothpaste and brush prevents tooth decay	544 (68.0)	780 (97.5)	11.994	0.000
We do not need to wash our hands when there is no visible dirt	600 (75.0)	20 (2.5)	44.555	0.000

Table 3: Knowledge about health-related conditions

Variable	Pretest, n (%)	Posttest, n (%)	Z	P
Diarrhea spreads by				
Eating unwashed fruit	640 (80.0)	800 (100.0)	10.000	<0.0001
Playing in the sunshine	40 (5.0)	0	4.588	0.000
Dirty and long nails	660 (82.5)	780 (97.5)	7.303	0.000
Dirty nose	600 (75.0)	700 (87.5)	4.588	0.000
Dirty clothing	600 (75.0)	760 (95.0)	8.251	0.000
When flies land on food	780 (97.5)	800 (100)	3.203	0.001
Eating too much food	780 (97.5)	20 (2.5)	86.053	0.000
Eating with dirty unwashed hands	760 (95.0)	780 (97.5)	1.865	0.062
Dirty water	760 (95.0)	800 (100)	4.588	0.000
If someone gets diarrhea				
Eat less food	640 (80.0)	0	40.000	0.000
Wash hand after defecation	700 (87.5)	800 (100)	7.559	0.000
Use ORS	600 (75.0)	800 (100)	11.547	0.000
Diarrhea can kill children	100 (12.5)	800 (100)	52.915	0.000
Children who eat too much sweets get worms in their body	640 (80.0)	0	40.000	0.000
Some worms may get inside our body through our feet by walking bare feet	150 (18.7)	700 (87.5)	26.877	0.000

ORS: Oral rehydration salt

were found washing their hair once a week (72.5%) and 70% students were washing hands before meal [Table 4].

Discussion

The children are the most important segment of our population and intend to receive attention from family, school, society, and government. Children are truly the foundation of a society because healthy children grow to become healthy and strong adults who can actively participate in the developmental activities of a nation.^[5] National health policy appealed that promotion of child health in voluntary basis found that the children access to hygienic practices widely differ between regions.

Overall 60% of children in developing countries had changed to good hygienic practices and self-care measures by best health education by teachers and health-care professional.^[6] In our study, it was found that in pretest, 53.8% had knowledge about general body cleanliness and 62.0% had knowledge that keeps fingernails trimmed and clean shows good hygiene. Oyibo^[7] in their study reported that this knowledge was 97.4%.

In our study, it was found that only 13% students were taking bath daily while Ansari and Warbhe^[8] in their study observed that almost 81% students used to take bath regularly, whereas it was also found only 3% students used to take bath in every alternate days and 16% students used to take a bath twice a day.

In the present study, 89.5% students were brushing their teeth daily and only 5% twice daily. Ansari and Warbhe^[8] found that 31% of the students used to brush twice a day, which is regarded as a standard practice. Three percent students used to brush their teeth every alternate day. Only 1% students used to brush their teeth daily. Manjunath and Kumar^[9] conducted study on school children. The study shows 68% brush teeth before going to bed followed by 31.8% in the morning.

72.5% students were washing hair weekly and only 2.5% washing daily in the present study. Ansari and Warbhe^[8] in their study revealed that 47% students washed their hair daily and 25% washed every alternate day, whereas 29% washed their hair once a week. Vivas *et al.*^[10] conducted study on school children. The study shows that 21% reported not washing their hair for at least 14 days.

In our study, it was found that 70% students were washing hands before meal and 87.5% were washing after defecation. In a study conducted by Vivas *et al.*,^[10] in Angolela, Ethiopia, the majority of students reported washing hands before meals. The percentages of children who reported the importance of and the preference for hand washing before eating were 99.7% and 98.8%, respectively. These high proportions are consistent with the high proportion of children who reported actually washing their hands before meals (99.0%). Oyibo^[7] reported that 76.1% students wash hands before meal. A cross-sectional survey was conducted in six rural areas of Bangladesh, to explore knowledge and practices of the school children regarding personal hygiene. Thirty cluster sampling technique was applied covering 180 schools and 1800 students. Data collection took place between March and April, 2011. Data reveal that about 75% children were aware about washing hands with soap after defecation. More than 80% children mentioned about washing hands with soap before meal intake. Although the children possessed good knowledge on few indicators of personal hygiene, their practice was inadequate. It was found that more than 50% of the children did not wash hands with soap before meal intake and after defecation.^[11]

Conclusion

School-based hygiene education is vital to decrease the rates of transmissible diseases. Children are more receptive

Table 4: Hygiene practices

Variable	n (%)
Taking bath	
Daily	104 (13.0)
Alternate day	616 (77.0)
Occasionally	80 (10.0)
Wash or change cloth	
Daily	144 (18.0)
Alternate day	636 (79.5)
Occasionally	20 (2.5)
Brushing teeth	
Daily	716 (89.5)
Twice daily	40 (5.0)
Occasionally	44 (5.5)
Wash hair	
Daily	20 (2.5)
Weekly	780 (72.5)
Twice weekly	200 (25.0)
Washing hands	
Before meal	560 (70.0)
After defecation	700 (87.5)
Both time	544 (68.0)

to learning and are very likely to adopt healthy behaviors at a younger age. They can also be agents of change by spreading what they have learned in school to their family and community members. Unhygienic condition is one of the major causes of diseases. According to recent study by the WHO, due to lack of cleanliness and hygienic conditions, there is a loss of Rs. 6500 every year to each Indian. Swachh Bharat Mission tries to plug this loss and help ease the burden on existing health-care facilities which will help boost our Indian economy.^[12]

Recommendations

Future studies regarding knowledge, attitudes, and practices should specifically assess the attitudes that students have toward hygiene, availability of water, and sanitation facilities at home and at school, and the reasons behind hand washing. Enhanced comprehensive knowledge about these issues should be used to improve low cost, but highly effective programs that will meaningfully attenuate the burden of transmissible disease among school children.^[7]

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Conflicts of interest

There are no conflicts of interest.

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